# EAST Search History

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|---|---|---|---|---|---|---|
| L1 | 8682 | (branded adj prescriptions or drugs) near5 (change or exchange or replace or substitute or switch) near5 (generic adj prescriptions or drugs) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:30 |
| L2 | 54741 | "705"/$.ccls. | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:31 |
| L3 | 241 | 1 and L2 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:31 |
| L4 | 180851 | insurance scores | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:31 |
| L5 | 139 | 3 and L4 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:31 |
| L6 | 5552 | patient near5 intervention | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:32 |
| L7 | 24 | 5 and L6 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:37 |

# EAST Search History

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|---|---|---|---|---|---|---|
| L8 | 0 | (Health adj insurance) near5 (disability adj claims) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:38 |
| L9 | 0 | (Health adj insurance) near10 (disability adj claims) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:38 |
| L10 | 0 | disability adj claims | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:38 |
| L11 | 0 | disability near5 claims | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:38 |
| L12 | 382 | disability near5 insurance | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:38 |
| L13 | 382 | 12 and 4 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:38 |
| L14 | 272 | 2 and 12 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:39 |

# EAST Search History

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|---|---|---|---|---|---|---|
| L15 | 2 | 14 and 6 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:39 |
| L16 | 10258 | medical adj history | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:49 |
| L17 | 43 | 14 and L16 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:45 |
| L18 | 4 | "6385589".pn. or "5692501".pn. | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:47 |
| L19 | 1 | 2002/0128866 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:46 |
| L20 | 0 | disability and l18 and 19 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:46 |
| L21 | 0 | medication and l18 and 19 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:46 |

# EAST Search History

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|---|---|---|---|---|---|---|
| L22 | 0 | (drugs or medication or Prescription) and 18 and 19 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/06 08:47 |
| S1 | 54610 | "705"/$.ccls. | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 07:50 |
| S2 | 0 | (system or arrangement or logical process or manner or method or methodicalness or methodology or mode or modus or modus operandi or operation or policy or practice or procedure or process or scheme or strategy or structure or systematic process or systematization or tactics or technique) and (administering or application or command or conduct$4 or control or directing or direction or execut$5 or governing or guid$5 or handling or overseeing or oversight or regulat$5 or rul$4) near5 (health$care or medical$care) near5 (cost or expense or charge or expenditure or payment or price or rate or score) adj (reduction or cut or cutback or decrease or decrement or diminution or fall or lessening or lowering or saving) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 09:39 |
| S3 | 40 | medical near3 risk adj assessment | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 08:07 |

# EAST Search History

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|---|---|---|---|---|---|---|
| S4 | 23 | (health or medical) adj insurance adj claims | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 08:16 |
| S5 | 6 | preventive near4 (health or medical) near4 intervention | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 08:08 |
| S6 | 2 | "5301105".pn. | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 08:16 |
| S7 | 29 | (health$care or medical$care) near5 (cost or expense or charge or expenditure or payment or price or rate or score) adj (reduction or cut or cutback or decrease or decrement or diminution or fall or lessening or lowering or saving) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 09:19 |
| S8 | 1194601 | PULSE or (predicted adj utilization ) near3 (statistical adj evaluation) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 09:21 |
| S9 | 2490 | S8 and S1 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 09:21 |
| S10 | 0 | S9 and S6 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 09:21 |

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|---|---|---|---|---|---|---|
| S11 | 0 | S9 and S4 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 09:21 |
| S12 | 1 | S9 and S3 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 09:22 |
| S13 | 2 | S9 and S5 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 09:22 |
| S14 | 6 | S9 and S7 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 09:23 |
| S15 | 180326 | insurance scores | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 09:23 |
| S16 | 36172 | insurance near3scores | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 09:28 |
| S17 | 67 | insurance near3 scores | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 09:24 |

# EAST Search History

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|---|---|---|---|---|---|---|
| S18 | 0 | S17 and S8 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 09:23 |
| S19 | 39 | S1 and S17 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 09:24 |
| S20 | 1302 | S16 and (threshold adj values) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 09:28 |
| S21 | 9 | S20 and (health$care adj services) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 09:29 |
| S22 | 5 | (cost or expense or charge or expenditure or payment or price or rate or score) adj (reduction or cut or cutback or decrease or decrement or diminution or fall or lessening or lowering or saving) near5 (health$care or medical$care or health or medical) adj insurance | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 10:25 |
| S23 | 0 | insurance adj claim adj history | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 10:26 |
| S24 | 143 | insurance adj claim | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 10:26 |

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| S25 | 10225 | medical adj history | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 10:26 |
| S26 | 3739851 | (prior or past) andmedical adj history | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 10:26 |
| S27 | 8719 | (prior or past) and medical adj history | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 10:27 |
| S28 | 0 | S24 and S25 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 10:27 |
| S29 | 5530 | patient near5 intervention | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 10:27 |
| S30 | 34 | patient near5 prevent$6 adj medicine | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 10:28 |
| S31 | 447 | S29 and S27 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 10:28 |

# EAST Search History

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|---|---|---|---|---|---|---|
| S32 | 13879 | (statistic$4 or predict$5) adj model | US-PGPUB ; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 10:28 |
| S33 | 53 | S31 and S32 | US-PGPUB ; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 10:35 |
| S34 | 3555 | health adj insurance | US-PGPUB ; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 10:36 |
| S35 | 6848 | S32 and "35" | US-PGPUB ; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 10:36 |
| S36 | 6848 | S32 and S35 | US-PGPUB ; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 10:36 |
| S37 | 110 | S32 and S34 | US-PGPUB ; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 10:36 |
| S38 | 3439948 | "38" amd S31 | US-PGPUB ; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 10:37 |

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|---|---|---|---|---|---|---|
| S39 | 4 | S37 and S31 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/10/30 10:37 |
| S40 | 2 | "6385589".pn. | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/01 13:35 |
| S41 | 2 | "6385589".pn. | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/01 13:35 |

## Rapillo, Kristine K.

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## Documents

- Risk adjustment: The missing piece of market competition
  *Shewry, Sandra, Hunt, Sandra, Ramey, John, Bertko, John.* **Health Affairs**. Chevy Chase:Spring 1996. Vol. 15, Iss. 1, p. 171 (11 pp.)

- U.S. needs community rates for health risks
  *Donald E L Johnson.* **Health Care Strategic Management**. Chicago:Jan 2002. Vol. 20, Iss. 1, p. 2-3 (2 pp.)

- Pitfalls of the current experience rating plan
  *Parry, Arthur E, Math, Steven E.* **Journal of Risk and Insurance**. Malvern:Dec 1993. Vol. 60, Iss. 4, p. 658 (13 pp.)



Citation style: ProQuest Standard

**Document 1 of 3**

Risk adjustment: The missing piece of market competition
*Shewry, Sandra, Hunt, Sandra, Ramey, John, Bertko, John.* **Health Affairs**. Chevy Chase:Spring 1996. Vol. 15, Iss. 1, p. 171 (11 pp.)

**Abstract (Summary)**
The process adopted by The Health Insurance Plan of California for assessing and adjusting for health risk differences among participating health plans is described. The results of the 1996 risk assessment/adjustment

calculations are also described. A risk assessment value is calculated for each health plan based on the plan's enrollee mix as compared with the mix of enrollees in The HIPC as a whole. The results indicate that approximately 1% of total premium dollars needs to be transferred to bring all health plan scores within the acceptable level (plus or minus 5%) of risk distribution.

**Full Text** (3575 words)



**[Headnote]**

Abstract: This DataWatch describes the process adopted by The Health Insurance Plan of California (The HIPC) for assessing and adjusting for health risk differences among participating health plans. We also report on the results of the 1996 risk assessment/adjustment calculations. A risk assessment value is calculated for each health plan based on the plan's enrollee mix as compared with the mix of enrollees in The HIPC as a whole. The results indicate that approximately 1 percent of total premium dollars needs to be transferred to bring all health plan scores within the acceptable level ( 5 percent) of risk distribution.

Much of the recent progress in health system reform has been related to underwriting reforms, the basic intent of which is to restrict health plans' ability to segment risk in the market and to force plans to compete on price, service, and quality. In 1993 California embraced a broad range of underwriting reforms in the small-group insurance market. The reform package also included authorization for a voluntary statewide purchasing cooperative designed to garner the benefits of large-group purchasing for small employer groups. The legislation allowed but did not mandate use of a prospective risk adjustment process to minimize differences in the actuarial risk of the health plans participating in the cooperative. The underwriting reforms and the purchasing cooperative, known as The Health Insurance Plan of California (The HIPC), have been operative since July 1993. As of 1 January 1996, 5,529 employer groups encompassing 101,230 enrollees had enrolled in one or more of The HIPC's twenty-four participating health plans.

The structure of The HIPC provides basic protection against risk segmentation by health plans. These structural features include the marketwide reform components mentioned above, the use of a standard benefit design, and annual open enrollment periods in which subscribers may change health plans. However, health plans' ability to segment risk has not been eliminated. Some of the ways in which risk can continue to be segmented include design of provider networks, slow referral to specialty care, encouragement from case management or customer service staff that another health plan may be "better able to meet a customer's needs," or marketing techniques that technically conform to the fair marketing laws but are designed to discourage higher-risk subscribers from enrolling. It is also possible that persons with high-cost illnesses will by chance or by personal preference be concentrated in a few health plans.

Two aspects of The HIPC may increase health plans' ability to engage in risk segmentation. First, workers in employer groups joining The HIPC choose their preferred health plan each year. Individual choice is likely to exacerbate any nonrandom risk segmentation that is occurring. Second, the pressure from organized health care buyers on health plans to reduce price may increase the incentive for plans to engage in risk-segmenting behavior to satisfy purchasers' pricing demands.

The HIPC's governing entity, the California Managed Risk Medical Insurance Board (MRMIB) (a voluntary, semi-independent state board), instructed staff to work with the health plans participating in The HIPC and the board's consultants at Coopers and Lybrand to develop a prospective method to measure and adjust for risk-based differences in health plan enrollment. The board asked staff to develop a method that was acceptable to the health plans participating in The HIPC, reflected state-of-the-art methods for measuring risk, and was feasible to implement given the wide range of the health plans' ability to collect data.1

This DataWatch describes the process adopted by The HIPC for assessing and adjusting for health-risk differences in membership between participating health plans and reports the results of the first risk assessment/adjustment calculations. The first risk adjustment transfers between health plans will be made 1 July 1996. Each subsequent July the transfer amounts will be updated to reflect the most recent risk assessment calculation.

A series of work group meetings reviewed possible approaches to risk assessment and risk adjustment. From the available options, including expanded use of demographic characteristics, prior use of health services, self-reported health status measures, and use of key diagnostic indicators, the work group agreed to pursue an approach based on sex, key diagnostic indicators, and the number of children per contract. These risk indicators were chosen because the work group believed that they represent the key cost characteristics that are not

permitted as rating factors in The HIPC. Marker diagnoses were considered by work group members to be the most important indicator of likely differences in risk.

The process is intended to minimize any financial incentives health plans may have to select healthier-than-average members. Expected results of the process are to deter plans from selecting or marketing to healthier members, to protect those health plans that are selected by a costlier/less healthy group of members, and to encourage health plans' efforts to achieve excellence in treating people with high-cost conditions. It is not a goal of the process to standardize the premiums charged by all health plans for subscribers with comparable risk characteristics. Only those differences that are attributable to variations in the level of risk across health plans that are not accounted for in the premium rates are targeted.

Overview Of The Risk Assessment/Adjustment Process

A risk assessment value (RAV) is calculated for each health plan based on the health plan's enrollee mix as compared with the enrollee mix of The HIPC as a whole. These values are based on three components: sex, diagnosis, and the number of children per contract. Premium rates charged to HIPC participants vary based on age, geographic region, and family size. No differences in premiums are permitted based on an enrollee's sex or health status.

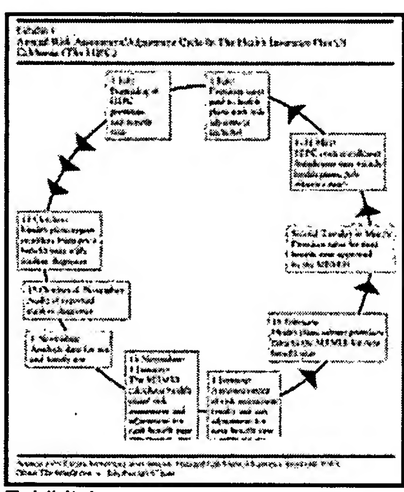
The RAV of The HIPC as a whole is always 1.0. The distribution of each health plan's RAV will determine whether or not the risk adjustment process is engaged. If all health plans have values within a predetermined threshold of acceptable risk distribution (5 percent), no risk adjustment is necessary.

Health plans that exceed the threshold are considered "outlier" health plans. The presence of outlier health plans triggers the risk adjustment process. Risk adjustment is done when at least one health plan has a RAV that is at least 5 percent different from The HIPC as a whole (a value that is less than 0.95 or greater than 1.05). Exhibit 1 illustrates the annual risk assessment/adjustment process.

Measuring Risk Differences Among Health Plans

Marker diagnoses. The most challenging of the RAV calculations is measuring differences among health plans in the proportion of HIPC members with "marker" diagnoses. A list of 120 marker diagnoses is used in making the calculation; the most common marker diagnoses and their relative values are shown in Exhibit 2.

The list of marker diagnoses was created through an iterative process using data supplied by health plans participating in The HIPC. Data were solicited from all HIPC health plans. Four HIPC health plans-Aetna's preferred provider organization (PPO); Employers Health Insurance; John Alden; and Kaiser Foundation Health Plan, Northern California Regionprovided data for use in the analysis. The data supplied by Kaiser represent 6.5 million person years of coverage ( 1992-1994); the combined data from the other three health plans total 595,000 person years (1992-1993). All data were for the health plans' California commercial members.



Enlarge 200%

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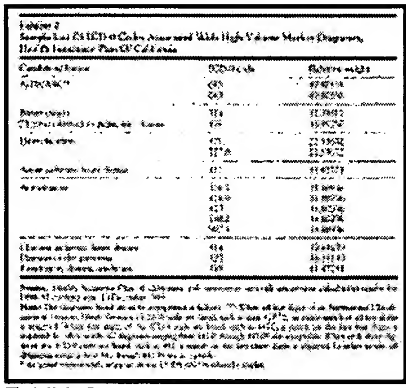
Exhibit 1

Diagnoses considered for the analysis were restricted to those that have higher-than-average costs (using a variety of cost thresholds), are reasonably predictable, and are subject to a limited degree of coding discretion. Also, certain types of cases, including normal maternity, mental health and chemical dependency, and trauma, were excluded from the analysis.2

The marker diagnoses contained on the final list are those International Classification of Diseases, Ninth Revision (ICD-9) codes that are associated with an inpatient stay and have average annual health care charges of $15,000 or more. The use of an inpatient day "trigger" for identification of persons with marker diagnoses was the result of the inability of many health plans to accurately track or value in a common way the occurrence or cost of the ambulatory services provided to their members.



Enlarge 200%

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Exhibit 2

The relative weight for each marker diagnosis was calculated by dividing the average charges for each person with a marker diagnosis by the average charges for all other persons in the database.

To determine each health plan's marker diagnosis score, a composite marker diagnosis weight is calculated based on the proportion of HIPC members in each health plan that have marker diagnoses and the risk weight for the diagnoses. An average risk weight for all other plan members also is calculated so that the overall average for the entire HIPC population has a risk weight of 1.0. Each plan's proportion of marker diagnoses is compared with the proportion of persons with marker diagnoses in The HIPC as a whole. Data used for calculation of the marker diagnosis score are based on HIPC members' utilization data from the prior benefit year.

Process for collecting and counting marker diagnosis data. Each health plan must provide documentation of the presence of HIPC members who meet the criteria for marker diagnoses. A powerful incentive is provided to plans to report marker diagnoses. Plans that do not report any HIPC members with marker diagnoses are assumed not to have any. As a result, these plans have a lower average risk weight, as all of their members are assumed to have the weight of the "other" population.3 To assure that all plans are using consistent criteria for identifying members with marker diagnoses, the MRMIB audits all of the marker diagnosis data. The marker diagnosis scores are adjusted for the age of persons enrolled in each health plan. This is done because health plans can price for age differences and because the probability of having certain of the marker diagnoses is related to age.

Weighting factors. Each health plan's scores for mix of enrollees' sex and number of children per contract are calculated by comparing the mix in the health plan with the mix in The HIPC as a whole. Data used for both calculations are obtained from The HIPC's enrollment database and are based on a "snapshot" of HIPC enrollment on the risk assessment calculation date ( 1 November).

The weighting factors for the sex mix are stratified by age. This approach is needed because there are significant differences in sex weighting for the various age categories. For example, typical actuarial tables for males and females show that average costs for females are twice as high as those for males during the childbearing years. As the population ages, males generally are shown to incur higher levels of health care costs. The sex weighting factors were calculated using 1991 data from Kaiser Foundation Health Plan, Northern California Region.

Differences in family size among health plans are measured by comparing the number of children per contract in each health plan with the number of children per contract in The HIPC as a whole. This factor measures the number of children in the two premium-rating categories that include children and calculates the expected

difference in total cost per contract associated with differences in family size. This calculation is done to account for the fact that California's small-group market rating laws restrict family-size rating to four categories and thus do not permit health plans to price for the cost impact of families with a large number of children. The relative cost per child used in the analysis is based on 1991 data for the Kaiser Foundation Health Plan, Northern California Region, and is calculated as 62 percent of the cost of an adult.

Correcting For Risk Maldistribution

Distribution of risk among health plans. A RAV for each health plan is calculated by multiplying each health plan's sex mix score by its familysize mix score and by its diagnosis mix score. If necessary, the total weight for all health plans is "normalized" to 1.0. To address concerns regarding the credibility of the scores for those health plans with very small HIPC enrollment, the RAVs of plans with fewer than 1,000 HIPC members on the risk assessment analysis date are adjusted. A formula is used that creates a blended score with varying weight given to the plan's score and The HIPC's average score.4 Exhibit 3 displays the results for the 1995 risk assessment calculation. One plan had a RAV above the 1.05 threshold, and two plans had RAVs below the 0.95 threshold.

The goal of the risk adjustment process is to adjust the RAV of any and all outlier health plans to the 5 percent threshold level.5 Once the risk adjustment process is activated (by the presence of an outlier health plan), the process is iterative and may involve all participating health planseven those with initial risk assessment scores that are within the threshold amounts.

The results of each year's risk assessment process are available to health plans during The HIPC's annual rate negotiation cycle so that participating plans can factor risk adjustment transfer amounts (payments or receipts) into their prospective rate setting. Risk adjustment transfer amounts apply to HIPC premiums throughout the subsequent benefit year.6 Before transfer amounts are calculated, two additional calculations are made.

Accounting for allowable pricing factors. Risk adjustment transfer amounts must take into account the factors for which health plans are able to price in their monthly HIPC premiums so that risk differences already incorporated into premium rates are not incorrectly included in the risk adjustment transfer amounts. To remove these effects, a factor that measures each health plan's age, geographic region, and family-size mix against The HIPC average is calculated. The result of this calculation is called the health plan's rated risk factor.

Calculating a theoretical average monthly premium. A reference point is needed for calculating the risk adjustment transfer amounts; for this, a theoretical average monthly premium is used. The theoretical average monthly premium is calculated by multiplying each health plan's rated risk factor by the overall average HIPC premium. This calculation adjusts the average HIPC premium by those risk factors that health plans are able to include in their HIPC rates.

Risk adjustment transfer payment/receipt calculation. The first step in the risk adjustment process is to calculate the amount of funds needed to move the high- and low-end outlier health plans to the risk threshold. The total amount is considered the risk transfer pool. Each health plan's effective RAV is then recalculated based on the amount of dollars transferred. The outlier health plans are assigned a RAV of either the high- or the low-end threshold; that is, high-end outliers are assigned a value of 1.05, and low-end outliers are assigned a value of 0.95. The factors for all of the health plans are then recalculated based on the percentage of the theoretical average premium collected by each health plan.

If the risk transfer pool has insufficient funds to move the high-end outliers to the risk threshold, additional funds are collected from the lowest-risk plans until the risk transfer pool is fully funded, or until the "effective" risk factor for the lowest-risk plan has moved up to the nextlowest-ranked plan. This step is repeated until the risk transfer pool has a zero balance.

Summary of risk adjustment results. The results of The HIPC's 1995 risk assessment/adjustment process indicate that just over 1 percent of total premium dollars needs to be transferred to bring all plans' risk assessment values within the thresholds (Exhibit 4). The individual plan assessments include payments from seven health plans, all health maintenance organizations (HMOs), ranging from $0.69 to $11.80 per contract per month. The one high-end outlier plan, a PPO, receives $46.04 per contract per month. Sixteen health plans (one PPO and fifteen HMOs) are not affected by the risk adjustment process.

Discussion

The HIPC's risk assessment/adjustment process was developed by a working group that invited the input of all participating health plans. Two simulations of the model were performed prior to implementation, to test its stability. The model is based on measuring differences in risk mix and not differences in efficiency among the health plans. However, some observers note with dismay the position of a PPO as the only receiver planthat is, the only health plan that will receive risk adjustment transfer payments. We believe that this is attributable to the concentration of higher-risk persons in the PPO. An in-depth look at the component scores in the risk assessment reveals why this is so. Excluding the values for the plans with HIPC enrollment of less than 1,000, the receiver plan had the overall highest diagnosis and second-highest sex-factor scores.

Other observers question whether the method is anticompetitive and rewards inefficient delivery systems. We do not believe this is so. The entire process is designed to shift health plan competition from risk segmentation to competition based on quality, cost, and service. Risk is measured based on an assessment of the underlying demographic and health status of members, not on the cost to any specific HIPC health plan to treat their conditions. In our simulations and first year of implementation, we found that the ability of health plans to report and provide documentation of members with marker diagnoses varied widely. Systems that track and link cost, utilization, and diagnostic data are likely to continue to be a competitive distinction between health plans.

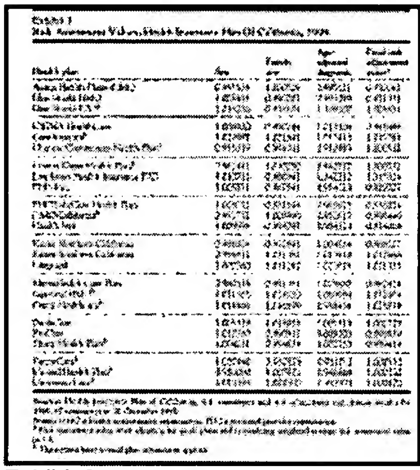

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Exhibit 3

Although the method measures the distribution of risk, it does not answer the question of why risk is concentrated in one plan over another. If alternative delivery systems are to compete in an individual-choice model, and if higher-risk persons systematically choose one delivery system over another, then it is appropriate for transfers to be made to that delivery system. The HIPC offers a unique view of the risk-based dynamics that are likely to underlie a reformed individual-choice market in which differing delivery systems compete as equals. If we value choice of delivery system in a reformed marketplace, development and institutionalization of a risk assessment/adjustment process is a necessary component of that system.

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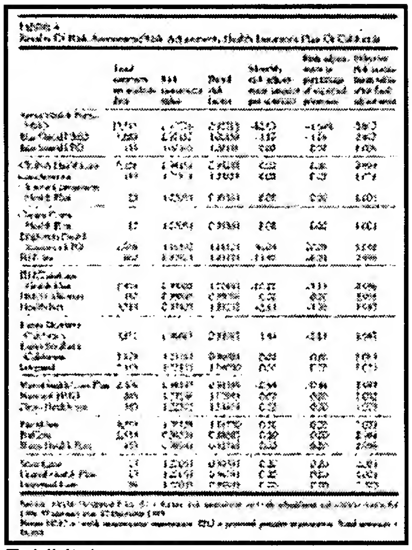
Exhibit 4

**[Footnote]**
NOTES
1. The Robert Wood Johnson Foundation provided funding for development, simulation, and validation of the methodology. A complete description of the methodology and calculations used in The HIPC's risk assessment/adjustment analysis can be obtained from the authors at the California Managed Risk Medical Insurance Board, Suite 200, 818 K Street, Sacramento, California 95814. 2. Normal maternity is excluded because the costs for these cases should be reflected in premium rates that already allow for age rating; in addition, sex is one of the factors in the risk assessment, and sex-based risk in the non-Medicare population largely reflects the costs of providing maternity services. Mental health and chemical dependency are excluded because The HIPC's standard benefit design provides limited coverage for mental health and chemical dependency treatment; in addition, coding for mental health and chemical dependency cases is often less precise than it is for many physical illnesses. Trauma cases are excluded because these cases may represent one-time costs and thus are less likely to be indicative of future costs; in addition, it would be difficult for health plans to avoid these cases through any design of their delivery system, since the individual occurrence of trauma is highly unpredictable. 3. The weight for the "other" population is expected to change for each annual risk assessment. This weight is calculated as the remainder value after all persons with marker diagnoses are considered. For the most recent calculation, the weight is 0.932. 4. A formula is used that creates a blended score with varying weight given to the plan's score and The HIPC's average score. Plans with 500 members on the analysis date receive a score that is calculated as 25 percent of the plan's RAV and 75 percent of The HIPC's average RAV. Plans with 750 members on the analysis date have a weighting of 60 percent and 40 percent, respectively. Plans with 1,000 or more members receive their own RAV 5. The use of a 5 percent threshold for risk maldistribution is a compromise reached by the work group. Some members advocated use of a broader threshold or a maximum cap on the amount of dollars subject to transfer. Others advocated zero tolerance of risk maldistribution. The 5 percent threshold acknowledges the imprecision inherent in the method while still significantly contributing to addressing issues of risk maldistribution. 6. Risk adjustment transfer amounts from "payer" health plans to "receiver" health plans will be made by The HIPC administrator as part of The HIPC's regular premium collection and payment process. Payer health plans will receive subscriber premiums from which risk adjustment transfer payment amounts have been deducted. Receiver health plans will receive subscriber premium amounts to which a risk adjustment transfer amount has been added. The remaining funds will be held by The HIPC and distributed at the end of the benefit year. The fund withhold will be used to prorate payments to receiver health plans if incoming risk adjustment transfer amounts are insufficient to cover risk adjustment payments. This could occur if a payer health plan loses significant enrollment during the year or if receiver health plans have disproportionate growth during the year. Payments from payer health plans are the only source of funds for making transfer payments to receiver health plans.

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**Indexing (document details)**

**Subjects:** Studies, Statistical analysis, Risk assessment, Group health insurance, Health risk assessment, Health insurance

**Classification Codes** 9190, 9130, 6400, 3300

**Locations:** US

**Companies:** Health Insurance Plan of California

**Author(s):** Shewry, Sandra, Hunt, Sandra, Ramey, John, Bertko, John

**Document types:** Feature

**Publication title:** Health Affairs. Chevy Chase: Spring 1996. Vol. 15, Iss. 1; pg. 171, 11 pgs

**Source type:** Periodical

**ISSN:** 02782715

**ProQuest document ID:** 9449191

**Text Word Count** 3575

**Document URL:** http://proquest.umi.com/pqdweb?did=9449191&Fmt=4&clientId=19649&RQT=309&VName=PQD

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**Document 2 of 3**

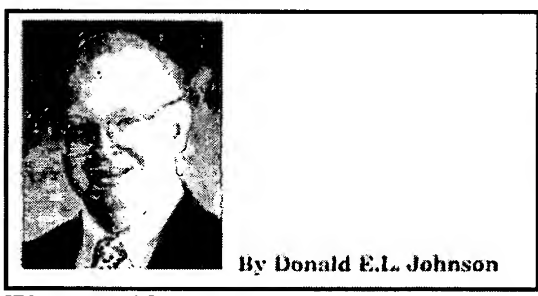
## U.S. needs community rates for health risks

*Donald E L Johnson.* **Health Care Strategic Management.** Chicago:Jan 2002. Vol. 20, Iss. 1, p. 2-3 (2 pp.)

**Abstract (Summary)**
Health policy institutes are being formed and revived all over the country by large employers who are enraged by soaring health care insurance premiums. They all want to figure out how to contain health care costs, which means containing access to care and the rates charged by hospitals, physicians and other providers. What is really needed is federal legislation that forces insurers and ERISA companies to put all enrollees into one risk pool per insurer or self-insured parent company and community rate all risks. Hospitals, physicians and other health care providers should support community rating of health insurance, which would force insurers to charge all of their customers the same premiums and end age and health status discrimination in the insurance market.

**Full Text** (1114 words)



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**[Photograph]**

Health policy institutes are being formed and revived all over the country by large employers who are enraged by soaring health care insurance premiums.

They all want to figure out how to contain health care costs, which means containing access to care and the rates charged by hospitals, physicians and other providers.

Employers shift costs to older and sicker workers

Employers' concerns about soaring health care costs in the face of price deflation in many industries are

understandable, especially in this corner. Our premiums for our 32 employees (22 of whom we insure) are up some 50% from a year ago because we have fewer and older employees, and rates are up 19% to 25% in our community in general. A survey by Willam M. Mercer Inc., New York, found that 13% of small employers and 6% of large ones are considering dropping their insurance plans for employees. No big employer will make that move, but some desperate small ones will.

In response to five years of rapidly rising health insurance premiums and forecasts that health benefits will cost some $10,000 per employee by 2004, compared with $7,000 in 2001, employers are shifting costs

to employees.

They're not waiting for think tanks or legislators to solve the problem. And if you don't think employers can change the market, just recall how they changed health care after the Clintons' health plan failed to pass Congress in 1993. They shifted most employees into managed care organizations (MCOs) that reduced expenditures by curtailing access to care and by getting big discounts out of hospitals and physicians.

Consumers and politicians rebelled and pushed so-called patients' bills of rights, one of which is stalled in Congress. The net effect of the "backlash" has been soaring costs of care, soaring utilization and soaring premiums.

Paying less for primary care

So now national MCOs and large employers are introducing health insurance plans that shift risks from employers and young, healthy employees to older and sicker employees. They are raising co-pays, deductibles and the share of the premiums paid by workers. In effect, they are making their insured workers pay more of the cost for primary care, chronic care and drugs. Primary care and non-catastrophic drug costs never should have been insured in the first place. All catastrophic costs, including chronic care, should be.

This will reduce the number of insured older employees who won't be able to afford the higher premiums and out-of-pocket costs. But it won't increase the number of younger, healthier employees who buy insurance, because many of them won't buy at any price. They prefer new cars and vacation travel to health insurance.

At the same time, however, if employers can avoid the risk of insuring older (45-plus) employees, they would be less likely to discriminate against older workers in the hiring process as they do today.

What we really need is federal legislation that forces insurers and ERISA companies to put all enrollees into one risk pool per insurer or self-insured parent company and community rate all risks.

Regulated community rating would reduce costs

A moderately regulated, open system of investor-owned and not-for-profit health insurers who community rate all enrollees in their corporate risk pools would:

1. Give employers and consumers the freedom to choose among insurers and types of insurance-catastrophic, medical savings accounts, PPOs, point of service HMOs and closed panel HMOs.

2. Give everyone a given type of plan from a given insurer at the same premium regardless of age, sex, health status or size or type of employer.

3. Allow insurers and providers to respond to changing market demands, new technology and other variables without unreasonable government control.

4. Simplify administrative procedures and claims processing costs for the insured, employers, insurers and providers, thereby reducing administrative costs.

5. Reduce the number of insurers to a few large national firms, increasing economies of scale and making it easier to regulate them.

6. Simplify and reduce government regulation.

7. Keep government out of the health insurance business and reduce politicians' influence on the field.

8. Prevent ageism in selling health insurance and in hiring by putting everyone into the same risk pool.

9. Save money for older, established companies with older workforces and require new businesses with young workforces to pay their share of total health costs. A new competitor that employs people in their 20s and 30s wouldn't have an unfair health insurance premium cost advantage over one that has people nearing retirement.

10. Allow all insurers and providers to make reasonable profits and earn decent incomes while allowing more older workers to afford a choice of health plans and providers.

Hospitals should support community rating

Hospitals, physicians and other health care providers should support community rating of health insurance, which would force insurers to charge all of their customers the same premiums and end age and health status discrimination in the insurance market. Here is why:

1. Some 15% to 20% of the privately insured population accounts for 75% to 80% of health care expenditures.

2. Community rating would ensure that more of the older (45 years old-plus), sicker workers and their dependents would have at least catastrophic coverage by a private insurer.

3. With more of their best customers covered by insurance, providers would be more likely to be paid, and they would have lower bad debt expenses.

4. Self-insurance by large employers ultimately might have to be banned, to eliminate financial incentives for companies that discriminate against older and sicker workers by lowering health insurance costs, and to force everyone to pay their fair share of costs.

5. Under-funded universal health insurance, which would turn providers into government employees instead of government (Medicare, Medicaid) contract workers, would be less of a threat.

6. Community rated health insurance would lead to health insurance company consolidation, which would reduce claims processing complexity and facilitate electronic data processing and info exchange.

7. Coupled with enactment of the patients' bill of rights, which would encourage defensive underwriting by insurers and end utilization controls of all kinds, a community rated insurance system would allow providers to prosper.

Unions might oppose community rated health insurance plans for all workers, because they might view this as a limitation on their freedom to negotiate health benefits with employers. But in reality, if all plans were community rated and all insured workers were put into huge risk pools, there would be just as much for unions to negotiate.

The biggest problem with this approach is the same problem with the Clinton plan. It is too big and too radical. But this makes perfect sense and doesn't give more power to politicians. Instead, it gives more power to providers, payers and patients.

**Indexing (document details)**

| | |
|---|---|
| **Subjects:** | Insurance rates, Group health insurance, Health care policy, Cost control, Advantages, Risk assessment |
| **Classification Codes** | 9190, 8210, 8320, 6400, 1200, 3300 |
| **Locations:** | United States, US |

**Author(s):** Donald E L Johnson

**Document types:** Editorial

**Publication title:** Health Care Strategic Management. Chicago: Jan 2002. Vol. 20, Iss. 1; pg. 2, 2 pgs

**Source type:** Periodical

**ISSN:** 07421478

**ProQuest document ID:** 98893465

**Text Word Count** 1114

**Document URL:** http://proquest.umi.com/pqdweb?did=98893465&Fmt=4&clientId=19649&RQT=309&VName=PQD


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**Document 3 of 3**

## Pitfalls of the current experience rating plan

*Parry, Arthur E, Math, Steven E.* **Journal of Risk and Insurance**. Malvern:Dec 1993. Vol. 60, Iss. 4, p. 658 (13 pp.)


**Abstract (Summary)**

Experience rating, a method for adjusting class experience to an individual risk, has certain basic assumptions based on ownership of the firm that do not always apply. Situations in which the assumptions do not hold are examined. Recommendations for adjusting the experience rating formula to offset the variations that exist in real-world events are offered.


**Indexing (document details)**


**Subjects:** Workers compensation, Statistical methods, Risk assessment, Rate setting, Mathematical models, Insurance rates, Experience

**Classification Codes** 9190, 9130, 8220, 3300

**Locations:** US

**Author(s):** Parry, Arthur E, Math, Steven E

**Publication title:** Journal of Risk and Insurance. Malvern: Dec 1993. Vol. 60, Iss. 4; pg. 658, 13 pgs

**Source type:** Periodical

**ISSN:** 00224367

**ProQuest document ID:** 1185447

**Document URL:** http://proquest.umi.com/pqdweb?did=1185447&Fmt=18&clientId=19649&RQT=309&VName=PQD


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